# THE INFLUENCE OF SPECULATIVE MARKETING UPON PRICES

The development of the modern methods of wholesale produce marketing is usually associated with speculation. The markets are attacked because they foster speculation and defended because speculation renders substantial services. In recent literature devoted to the practices of the cotton exchanges much emphasis has been laid upon the non-speculative functions of the market. The "hedge" and the various forms of "arbitrage" deals are all well known, their importance is clearly recognized in all the exchanges and boards of trade, but general discussions of the price structures of modern markets have been almost exclusively concerned with the influence of speculation upon prices. It is assumed that the organization of speculative trading is the most distinctive feature of our wholesale markets. The speculative element is assumed to be more influential today than in the past, and, consequently, it is presumed that prices must be more nearly stable, both throughout the season and from season to season.[1]

The fact that speculation must needs stabilize prices is patent to all, but the statistical studies of market quotations do not disclose the increase in stability that is anticipated. The more notable American studies are those of Mr. Brace and Professor Emery. Both are inclined to doubt the significance of the statistical demonstration. Mr. Brace says:

> It must be admitted, however, that the results shown are inconclusive, and that allowance must be made before any one should consider them of much weight upon either side of the controversy.[2]

Professor Emery is not quite so skeptical:

> The foregoing figures of price variations cannot, however, be accepted as an entirely accurate indication of the influence of speculation.

[1] There is an extensive literature upon this subject both in Germany and in the United States. The American writers seem to have been largely influenced by the Germans. The more notable studies are:

M. Kantorowicz, "Die Wirksamkeit der Speculation im Berliner Kornhandel, 1850-1890," *Jahrbuch für Gesetzgebung und Verwaltung*, 1891, pt. III, p. 221.

David Kohn, *Der Getreideterminhandel* (Lenpzig, 1895).

Bunzel, "Der Terminhandel, seine Volkswirtschaftliche Bedeutung und Reform," *Zeitschrift für Volkswirtschaft, Socialpolitik und Verwaltung*, 1897, p. 385.

Ruesch, "Der Berliner Getreidehandel unter dem deutschen Börsengesetz," *Jahrbücher für National-Oekonomie*, vol. 33 (1907), p. 145.

[2] H. H. Brace, *The Value of Organized Speculation* (Houghton Mifflin, 1913, p. 58).

In the first place they are summarized in the rough form of averages, and do not pretend to be more than fragmentary. Incomplete as they are in this respect, however, they do show a pretty uniform tendency toward a lessening of price fluctuations.[3]

Elsewhere, he says, "Nevertheless, the fluctuations under a speculative system are still large."[4]

These statistical demonstrations fail because the facts are not as presumed. It is not true that the organization of speculation has sufficiently increased the significance of the stabilizing tendency to produce notable reductions in the fluctuations of average prices. Nor is it true that the improvements in the technique of modern markets have been most conspicuous with reference to speculation. The statistics used by Professor Emery and Mr. Brace showed some slight increase in the stability of prices between the middle of the nineteenth century and its closing years. The results were not notable but they did seem to bear out the thesis. Had the statistical studies been carried back to a somewhat earlier period, the futility of these methods would have been clear. It is a matter of common knowledge that great changes in the forms and technique of marketing occurred in the first half of the nineteenth century. The transition to the new order was not completed at the same date in all countries, but in general the modern organization of speculative trade grew up at this time. Any statistical demonstration should reflect this great transformation. Statistical material for a study of this earlier period is not readily obtained, but Jacob's *Reports on the Corn Trade*[5] have preserved price figures for the continental export districts which are fully adequate to the needs of a study comparable in all respects to those made of the organized markets of the nineteenth century. In Jacob's first report, the high and low prices of all kinds of grain at Danzig are given for each year from 1703 to 1825. High and low prices at Cracow are given month by month for the decade 1814 to 1824. Average prices per month are given for Mecklenburg wheat in the Hamburg market for the years 1791-1822. Some of these statistics thus fall within the period that is usually associated with the rise of modern methods. The text of Jacob's reports, however, affords fairly clear evidence that changes in organization which may have begun elsewhere were not taking place

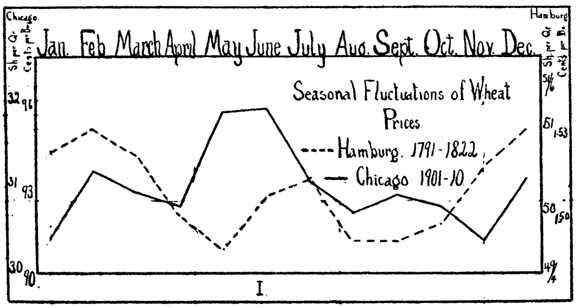
[3] H. C. Emery, *Speculation on the Stock and Produce Exchanges of the United States*, Columbia University Studies (Longmans, Green, 1896), p. 127.

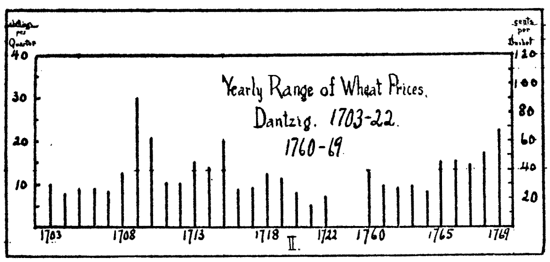
[4] *Ibid.*, p. 125.

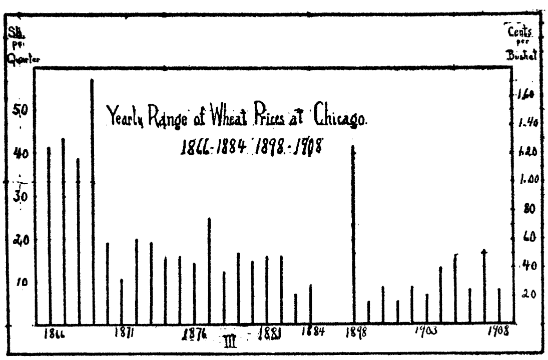
[5] William Jacob, First *Report on the Corn Trade* (London, 1826).

in Germany and Poland. Methods and conditions of marketing were as they had been for a considerable period. Conditions were doubtless characteristic for the entire eighteenth century. We have, then, the means for a comparison of export markets of the old system with the market conditions of an export district organized more elaborately.

The annexed charts[6] are made according to the principles followed by Mr. Brace. It will be observed that the prices quoted for these German markets have been reduced by Mr. Jacob to the Eng-




[6] Charts, I, II, and III.

lish system of weights and measures. The unit of quantity is the quarter, which is equivalent to eight Winchester bushels. The difference between prices in terms of the quarter would thus be eight times as great as proportionate differences in terms of a bushel, so that it is necessary to plot these prices upon a scale which allows for this difference in the unit of quantity as well as for the difference in the monetary unit.

The most cursory inspection of these charts is sufficient to show that there is no significant difference in the degree of fluctuation in prices despite the great differences in the forms and methods of marketing. The average monthly prices are peculiarly significant because it is so often said that the modern mechanism of organized speculation is necessary to prevent wide differences in price throughout the season. The figures for Mecklenburg wheat at Hamburg show that such statements are without foundation in fact. Methods of trading at Hamburg were more nearly medieval than modern, and, none the less, the average monthly prices for twenty years exhibit no wider range than Chicago prices. This degree of stability must have been due to the presence of speculative influences in the Hamburg market. Even without a future contract and facilities for short selling, much speculation is possible and it is evident that there could be sufficient spreading of demand through the season to prevent serious troubles. In all probability the superior organization of modern markets is no more than sufficient to meet the increased difficulties that are created by the immense quantities handled and the extent of territory within the scope of market operations. Although the improvements in modern social organization have been notable, it is easy to exaggerate the actual effect of changes, and this is particularly true of these matters which affect the daily routine of life as intimately as the modes of distributing produce. We can do no more than reconstruct imaginatively the conditions of life in the sixteenth and seventeenth centuries when local markets were the only means of distributing produce. We think of these periods with an effort that makes them seem even more remote than they are. Modern methods represent a great increase in efficiency, but the nature of the change is easily misunderstood and its actual effect overestimated.

The significant changes in the modern system are twofold: the organization of speculation, and the separation of speculative and non-speculative transactions. These methods require significant

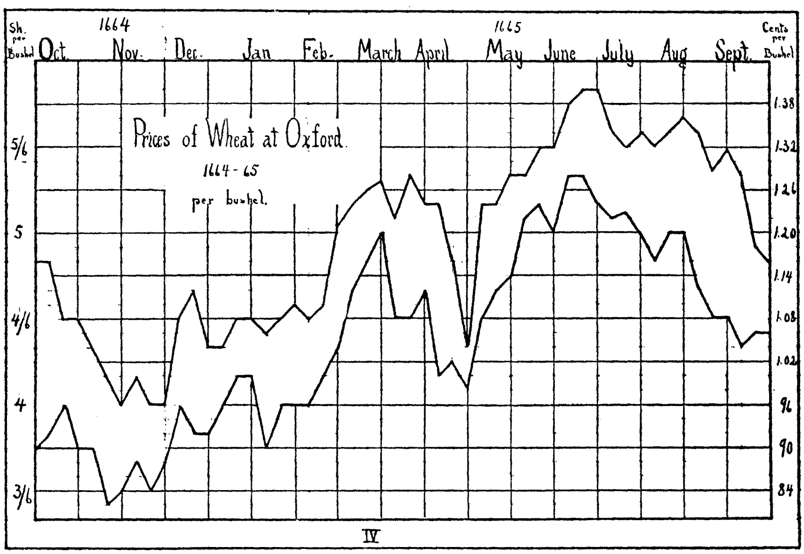
departures in technique, most particularly, careful standardization by experts, and trading in terms of abstract quantities and qualities rather than specific lots of produce physically present on the market. In the modern spot markets samples are exhibited, but they are chiefly significant with reference to the possibility of working over the stuff in order to make it grade higher. Oats, for instance, that are not properly bleached and clipped can be given a higher value by bleaching and reclipping. These technical differences are important because they separate the judgment of value in the abstract from the judgment of the quality of particular lots. The competition upon the market is more open and general, and differences of opinion are balanced more evenly than was possible formerly. These changes are definitely a result of speculative marketing, but they must needs be distinguished from the stabilizing tendency of speculation because they affect a different aspect of the market. Studies of speculation are concerned with differences in average prices: these differences in market technique appear most clearly in the ranges of price during the market day.

It is thus reasonable to compare markets not only with reference to the degree of stability of average prices, but also with reference to the degree of certainty expressed by the width of the range of prices at weekly intervals. For reasons which will appear later, graphical presentation is necessary, and of course all charts must be drawn to scale.

Full statistics of prices are not easily found, so that historical comparisons of the daily or weekly ranges in price are limited by circumstances. Some figures are available for England. Very complete statistics of prices and of quantities sold at Oxford were preserved by a local antiquarian and are now to be had in manuscript. For the five years, 1663-4 to 1667-8, these statistics have been put at my disposal by Dr. N. S. B. Gras.[7] The Oxford figures may be regarded as adequately representative of a local market undisturbed by the presence of merchants from a large city. The chart of Oxford prices published here is neither the most erratic

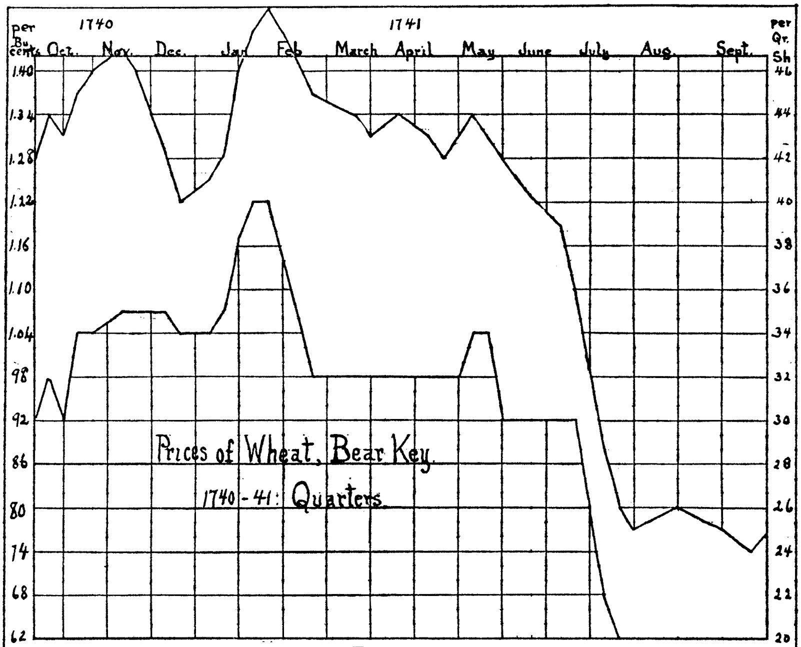
[7] These figures appear in *The Evolution of the English Corn Market*, by N. S. B. Gras (Harvard University Press, 1915). Appendix F.

of the series nor the most regular.[8] In the concluding volume of J. E. T. Rogers' *History of Agriculture and Prices in England*, there is a long series of market quotations of London prices taken from the newspapers now preserved in the British Museum as the Burney Collection. The completeness and detail of these quotations is variable. In some years, entire months are passed over without note; for other years, quotations are given for each week of the year. The market at Bear Key is reported for every year from 1709 to 1758, when the transfer of trade to Mark Lane became sufficiently complete to render the Mark Lane market the more important of the two. Mark Lane quotations are given for the remainder of the period covered by the volume, concluding in 1793. Inspection of the figures suggests a division of the century into three periods: 1709-1730, 1731-1756, 1757-1793. The first and last of these periods were characterized by wide ranges of prices and erratic changes. The middle period, with the exception of three years, was relatively quiet. The range of price was narrower and in general the market seems to have been steadier.




[8] See chart IV.

Charts[9] have been made of the movements of prices in the years 1740-1742 because these years represent the market at its best and also under the conditions which prevailed throughout the greater part of the century. The figures for Mark Lane in 1911-12 were taken from the *Mark Lane Express.*[10] In plotting these prices,

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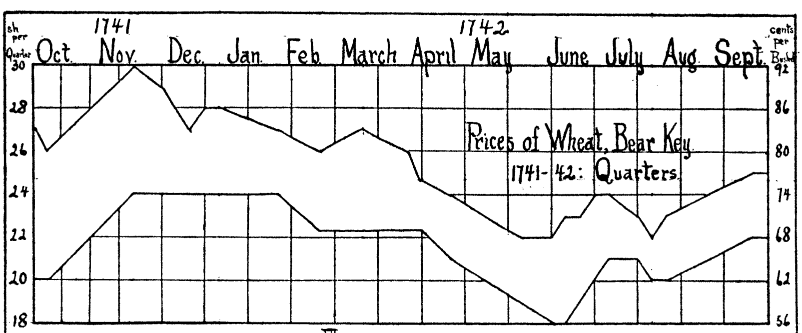
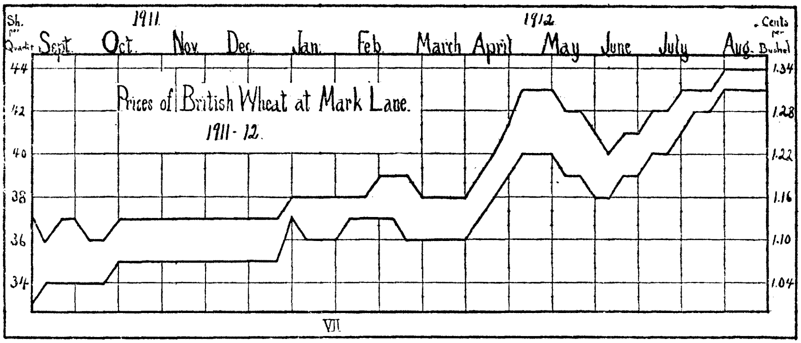



VI

[9] Charts V and VI.




[10] Chart. For Chicago, see Chart VIII.

allowance must be made for differences in the unit of quantity as well as for the difference in the monetary unit. All the London quotations are in terms of the quarter, consisting of eight bushels.

The increase in the efficiency of the market is clearly evident. The Oxford market was less satisfactory than our modern markets, but not seriously inadequate. The volume of business was small; it was unusual for sales to exceed 50 bushels on any market day and sales rarely fell below 20 bushels. The volume of trade at Bear Key was very considerable. All grain coming to London by sea was landed at this quay or key, whether coming from seaboard countries or from foreign ports. Importation from abroad was unusual in the early part of the century, but in the last quarter of the century importation from Baltic ports, directly or indirectly, was not uncommon. Grain was sold in large lots, usually by the boat load, and this fact probably exerted an influence upon the market. The grain was not graded and differences in quality must have been considerable. It seems incredible that differences of 8-10 shillings per quarter should exist on the market, and yet that is about the characteristic width of the range of prices for the greater part of the century. The explanation is probably to be found in two factors, the absence of systematic grading and the lack of systematic competition between the traders.

Some indication of the importance of grading is furnished by occasional notes in Rogers. Thus, for three weeks, in September, 1740, three figures are given for each market day:

| | | |
|---|---|---|
| 38 s. | 44 s. | 52 s. |
| 30 " | 44 " | 52 " |
| 30 " | 40 " | 50 " |

The high prices were paid for "fine old wheat." The market was thus given the appearance of being very wide because of a difference in the quality of the stuff. This could hardly have been of frequent occurrence. The distinction between old and new wheat is of some moment, but the quotations are distinct for a number of years and it is evidently not an explanation of the difference between eighteenth century and modern conditions. A distinction between varieties of wheat as definite as the red and the white wheats would seem to be of more fundamental importance. Separate quotations are given in the years 1748-9 and 1762-3. At these times, the quotations were very nearly parallel, and the range in price about the same for each type. Failure to distinguish these types would account perhaps for some extremes but not for the general range characteristic of this period.

The principal factor in this great range of prices is the absence of a systematic organization of competition. In a description of the market at Mark Lane[11] it is stated that the corn factors sat at desks or tables around the great courtyard of the Corn Exchange. They seem to have bought and sold upon the basis of samples, so that the general aspect of the place was not unlike the spot market of the Chicago Board of Trade. There was this difference, however: there was no wheat pit nor any active auctioning of lots and shiploads. In the eighteenth century, each deal was a private trade between two men; no one could know what was going on at another part of the exchange. Competitive buying and selling had not been definitely organized upon the local markets of the Middle Ages, but the restricted area and the small volume of trade had not required any elaboration of mechanism. When the old forms began to give way in the seventeenth century and buying by sample became common, there ceased to be much public competition. Both in France and in England the trade was transferred from the market place itself to the inns, cafés, or alehouses nearby.[12] Central markets, such as that at Bear Key and later at Mark Lane, would scarcely have shown this general

[11] H. Chamberlain, *History and Survey of London.* (London, without date, p. 553.)

[12] See A. P. Usher, *History of the Grain Trade in France* (Harvard University Press, 1913), pp. 92-94, 110; William Marshall, *Rural Economy of Norfolk* (London, 1785), vol. I, p. 195, vol. II, no. 80, and *Rural Economy of the Midland Countries* (London, 1790), vol. I, p. 229; and C. J. Fuchs, "Der englische Getreidehandel und seine Organisation," *Jahrbücher für National Oekonomie und Statistik,* vol. 20 (1890), p. 31.

demoralization as clearly as the tributary markets in the producing regions, but the difficulty was in some degree general. There was neither the disposition to organize a market to secure real publicity of competition nor knowledge of the mechanism necessary. The absence of a grading system made it impossible to bid freely as is done today, because there was no agreed standard of quality.

This view would lead to the conclusion that the grading system and the establishment of procedure in the form of an auction are very significant aspects of our modern markets. The dealing in futures is no doubt important, but it can not be regarded as of unique importance. It is part of an intricate system, a natural development of the organized trade; but there is ground for supposing that its importance has been somewhat exaggerated. The grading system is less impressive to the outsider, but of profound significance. The wild gesticulations and clamor of the wheat pit is astounding and perhaps appalling. It is said that our English neighbors contrive to do an immense business with less fuss and noise, but it is only fair to add that they are doing a somewhat different business. Whatever the apparent futility of such violence in action, the simultaneous auctions carried on by the sellers in the wheat pit are of fundamental importance.

The influence of the future contract and of active speculation by "bears" may be seen by a comparison of the relation of the upper and lower portions of the graphs. In the Bear Key charts and in the Mark Lane charts of 1911 there is no indication of active operations by the "bears" and in general they respond somewhat later to any change in conditions. As there is no future dealing at Mark Lane today, the significance of this element in marketing can be studied separately. In such markets the bears represent an essentially passive group operating upon certain presumptions of "bed-rock" prices. In the speculative market with future dealing the bears become active. There is pulling and hauling both ways. The bears may undertake to force prices down by heavy sales or the "bulls" may work prices up by active buying. Furthermore, both sides of the market are likely to move together. There are times, of course, when significant differences of opinion develop. The market then becomes wider. For the most part both parties are quick to appreciate the meaning of new facts and it is rare that conditions are so ambiguous as to lead bulls and bears in opposite directions.

The significance of the different statistical methods represented by the two types of graph is not entirely confined to demonstration of the influence of new methods of marketing. These methods symbolize concretely different conceptions of value. The graphs employed by Mr. Brace, plotting differences of range upon an horizontal base, represent the conception of value that is to be found in the writings of the classical school. Mill says:

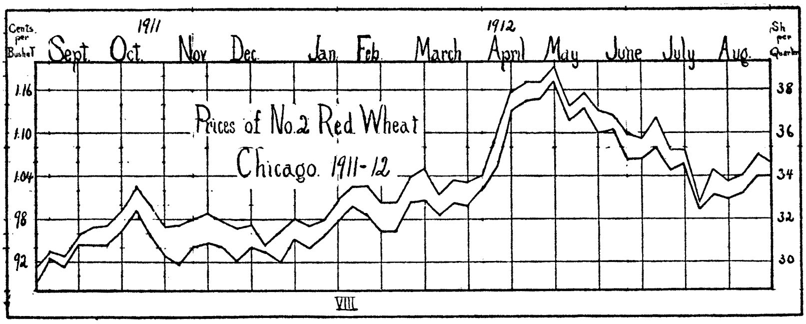
> On an average of years sufficient to enable the oscillations on one side of the central line to be compensated by those on the other, the market value agrees with the natural value; but it very seldom coincides exactly with it at any particular time. The sea everywhere tends to a level; but it never is at any exact level; its surface is always ruffled by waves, and often agitated by storms. It is enough that no point, at least in the open sea, is permanently higher than another.

The standard by which prices are to be judged is thus an average of prices over a period of time.

This conception implies that the condition to be desired is one of complete approximation of prices to a straight line. Fluctuation would be regarded as unfortunate, indicative of a discrepancy between price and value. These views are probably characteristic of the mass of the people. In so far as they think consciously about value, they conceive it to be a sort of long run price—the usual or average price. The widespread currency of these opinions is doubtless an explanation of the distrust of the great produce markets. The constant fluctuation of prices seems unreal and constitutes evidence that things are not as they should be.

The graphs which present the ranges of price assume a different conception of value. It is not conceived to be fixed and unchanging like the sea level but is constantly changing in response to conditions. The variations of price are measured from a moving base. The practical difference of this conception is revealed by the fact that the width of the graph is in many respects different from the range of prices on any market day. A very wide range of prices does not produce a wide graph if prices are going up or down sharply. The judgment of each separate event is so definitely related to the whole trend of the market that no abstraction is defensible.

This will be evident from an inspection of the Chicago chart. On November 11, 1911, and April 13, 1912, the range in prices was about five cents. Any attempt to draw inferences from price ranges by a method of averaging, or by a method of plotting the range on the same base, as Brace does, would fail to find any im-




portant difference between the state of the market on these two dates. It will be evident that these identical ranges had different meanings. In November, the market was increasingly uncertain of what the future had in store; in April, everybody knew that prices were going up. In mathematical parlance, the differential is a variable upon a moving base, and the direction of movement is an essential element of comparison.

The theoretical importance of this conception lies in the recognition of the reality of many fluctuations in price. There is no tendency to represent absolute stability as the normal or desirable condition of a market, and this is certainly a notable gain. The market place is primarily concerned with change, and the efficiency of a market can be measured more nearly in terms of the degree of certainty than in terms of relative stability. Where there is a high degree of certainty, prices will be as stable as conditions will permit, and more can not legitimately be expected. Insistence upon the advisability of emphasizing the degree of certainty does not in any way imply that the reasoning about speculation and prices is wrong. The doctrine that speculation tends to stabilize prices is true, but it states only part of the truth. With reference to the recent improvements in the technique of marketing, increase in relative stability of prices has been insignificant. The conspicuous change lies in the great increase in certainty.

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